



Armed Forces College of Medicine

AFCM



Pleura

Parotid Gland

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Ass. Prof of Anatomy

INTENDED LEARNING OBJECTIVES (ILO)



By the end of this lecture the student will be able to:

1. Describe position, shape, surfaces, borders and relations of parotid
2. Describe the course and site of opening of parotid duct
3. Recognize structures inside parotid gland and their clinically related problems
4. Discuss the nerve supply , blood supply and lymphatic drainage of parotid gland

Key points

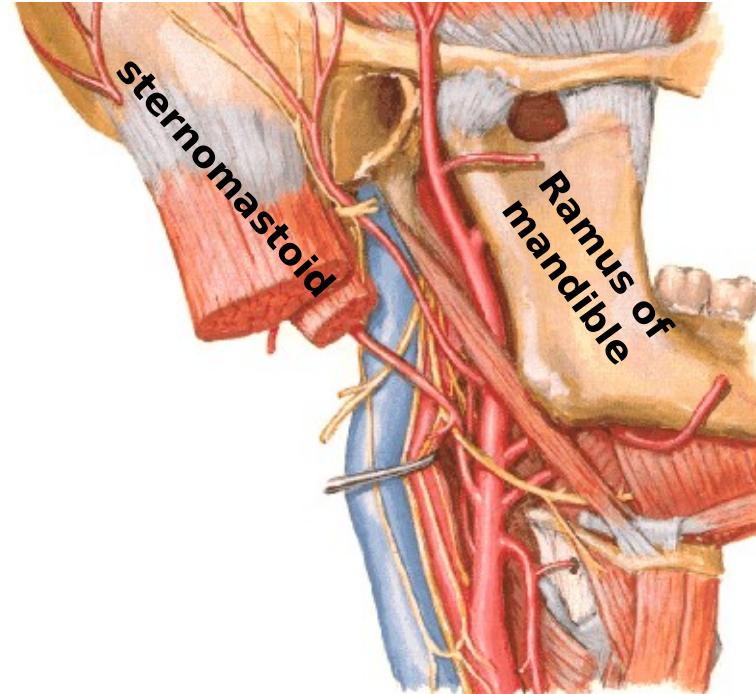


- 1. Anatomical features of parotid gland**
- 2. Structures inside parotid gland**
- 3. Parotid duct & Innervation of parotid gland**



Position

- **Wedged** between ramus of mandible & sternomastoid
- Its **upper end** fits into the external acoustic meatus
- Its **lower end** reaches down to the angle of the mandible

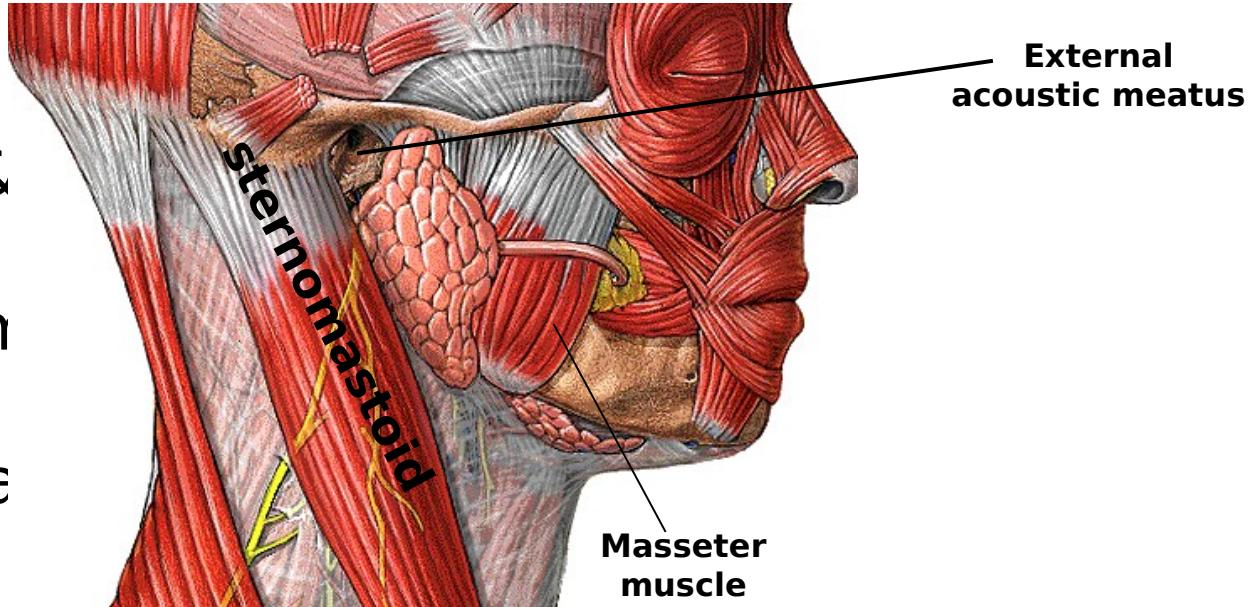


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Shape

- **Inverted pyramid** has:
- 3 borders:** anterior, posterior & Med.
- 3 surfaces:** superficial, anteron & posteromed.
- 2 ends:** upper (base) & lower (a



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Relations

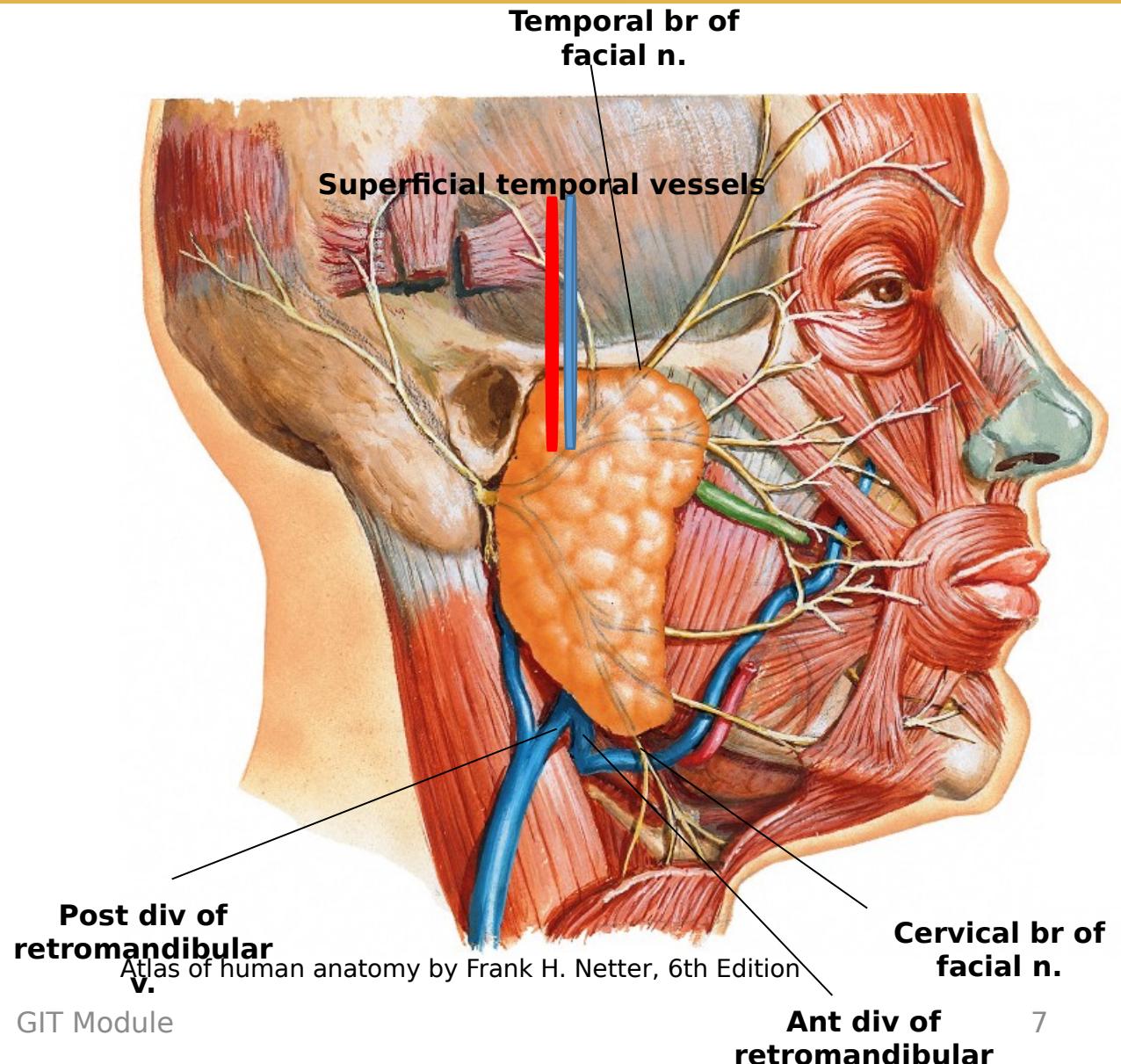


2 Ends : (Apex & base)

1) Apex:

- Is directed downward
- Through which pass **3 structures:**

cervical branch of facial nerve between 2 divisions of

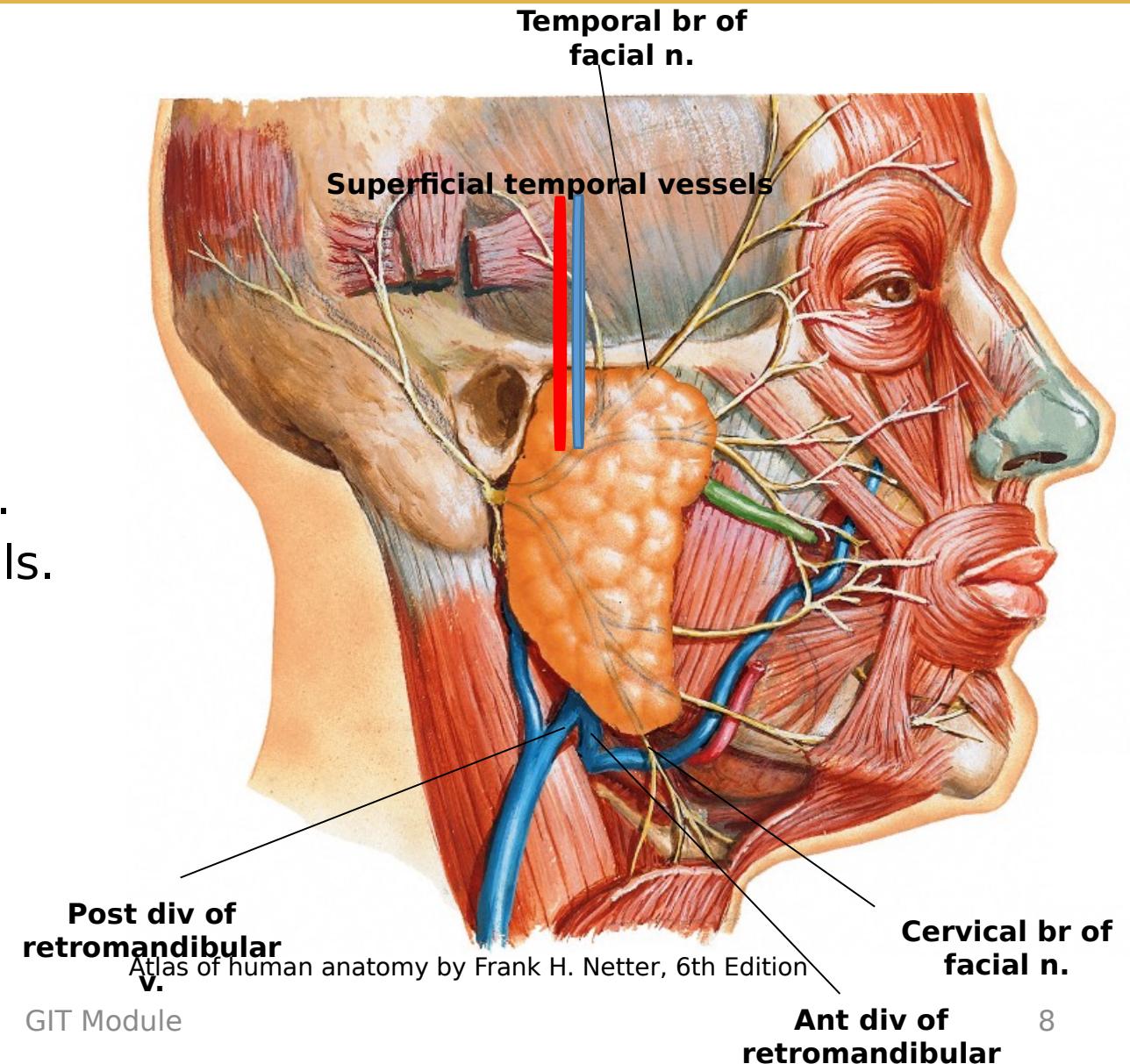




Relations

2) Base:

- around external acoustic meatus
- Through which pass **3 structures:**
 - a.Temporal branch of facial n.
 - b.Superficial temporal vessels.
 - c.Auriculotemporal n.

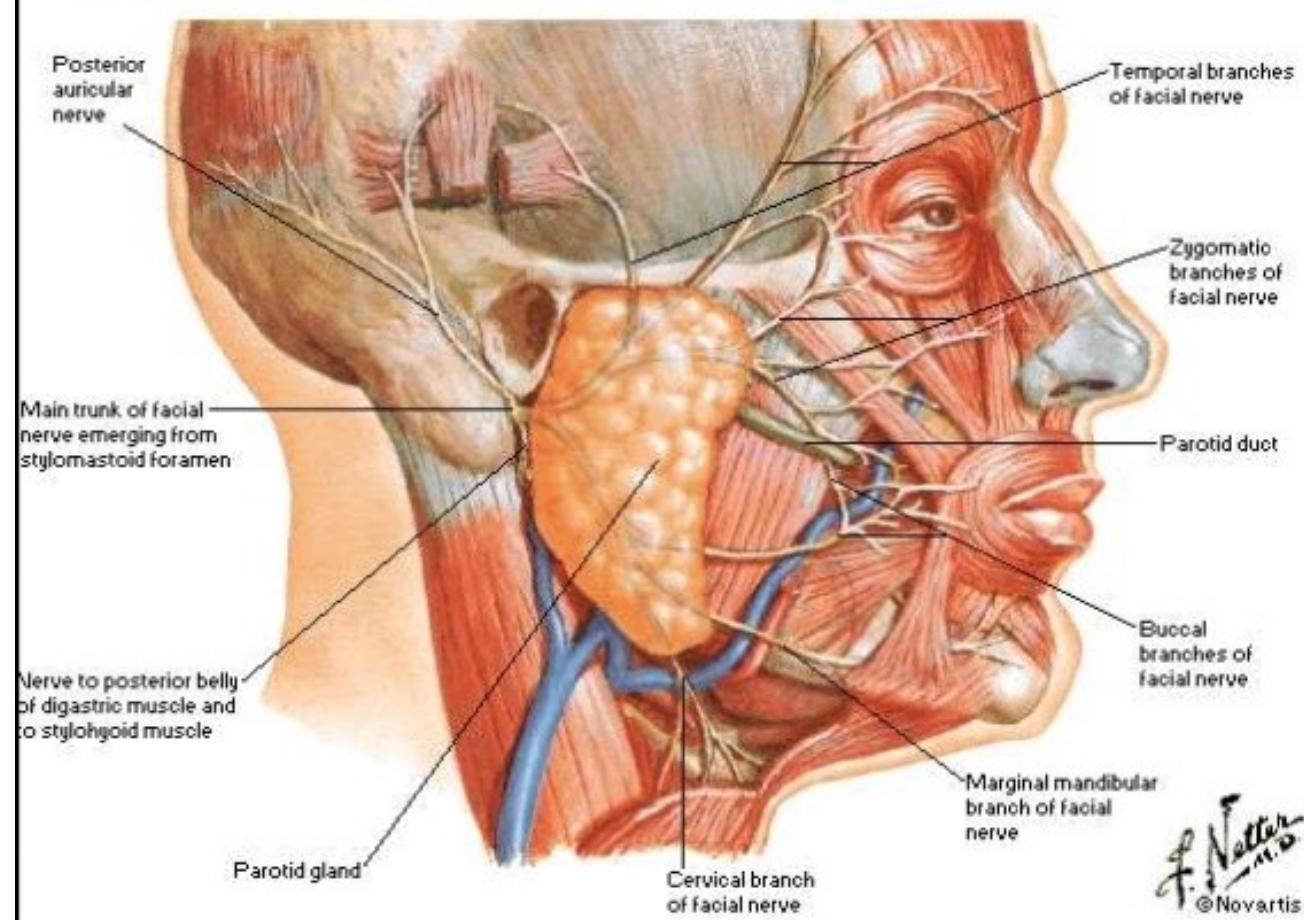


Relations

3 Borders (Ant, Post & Med)

1)Anterior border:

- related to masseter
- **5 structures emerge** from above downwards:
 - Zygomatic branch of facial n.
 - Transverse facial artery
 - Parotid duct
 - Buccal branches of facial n.
 - Mandibular branch



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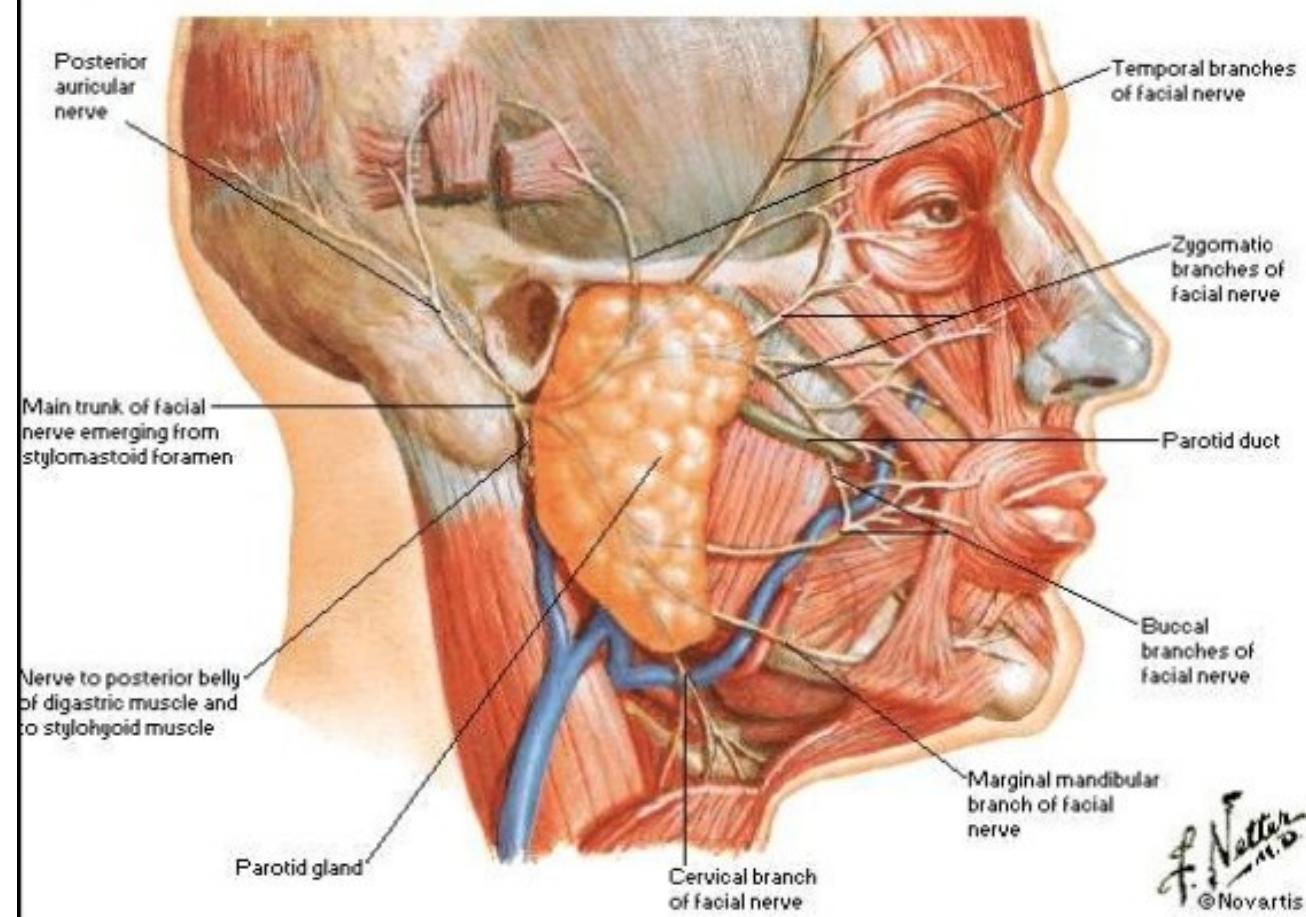
Relations

2) Posterior border:

- related to sternomastoid

3) Medial border:

- related to lateral wall of pharynx

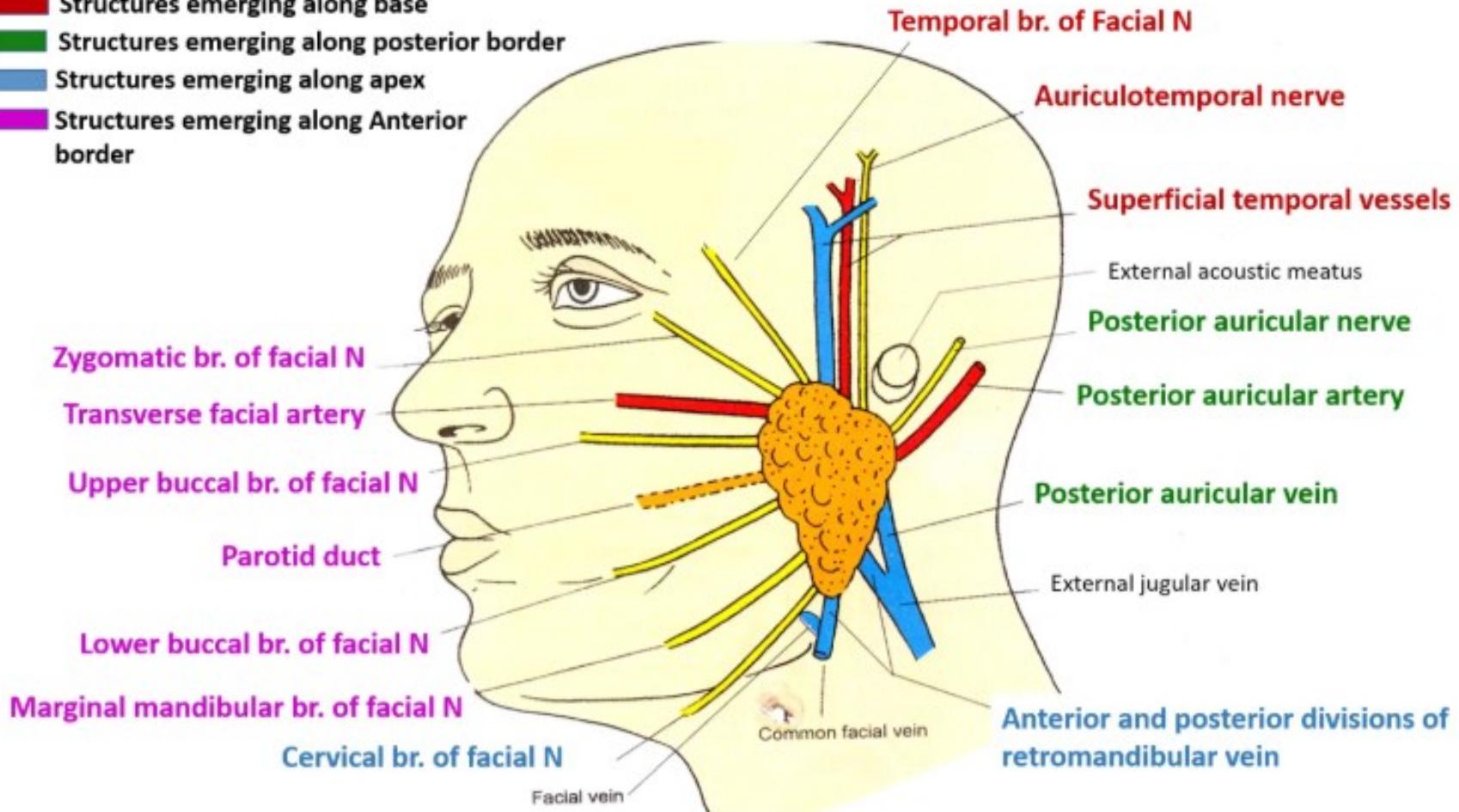


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Relations

- █ Structures emerging along base
- █ Structures emerging along posterior border
- █ Structures emerging along apex
- █ Structures emerging along Anterior border



<http://www.anatomyqa.com/anatomy/important-question-and-answers-on-head-and-neck-anatomy/parotid-gland-anatomy/>

Relations

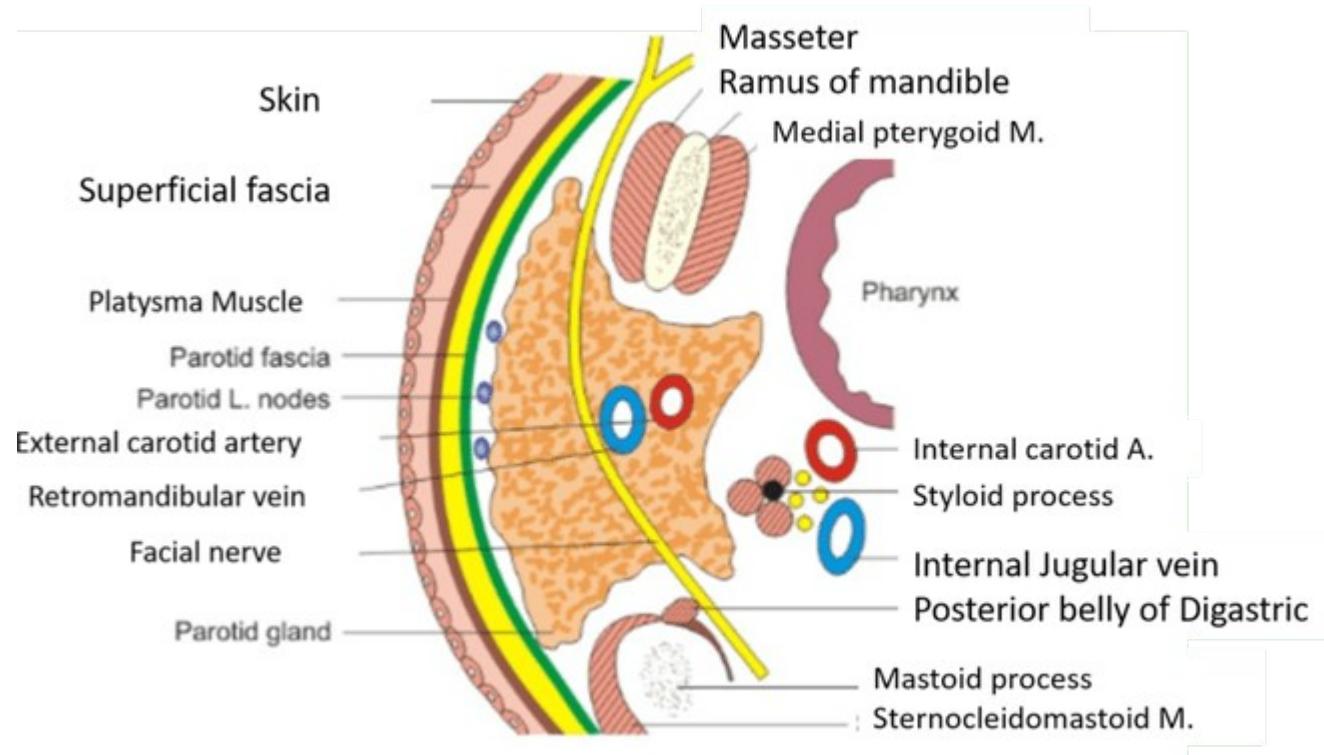


3 Surfaces

1) Superficial

(LAT):

- Skin, superficial fascia, platysma
- Great auricular nerve
- Preauricular lymph nodes (superficial parotid LN)



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Relations

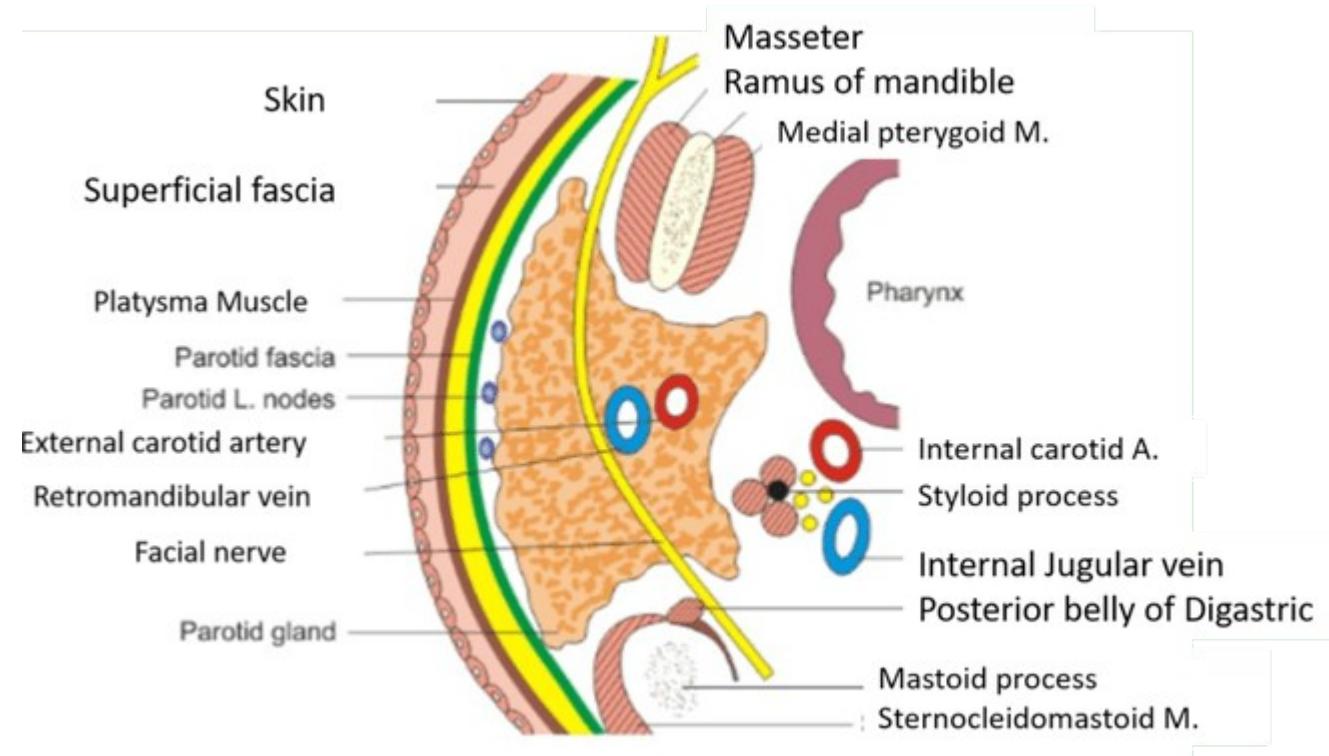
2) Anteromedial:

• - **Mandibular ramus** with **Medial pterygoid** (on its inner surface) & **Masseter** (on its outer surface)

3) Posteromedial:

Mastoid process (with 2 ms. attached to it = sternomastoid & post. belly of digastric).

Styloid process (with 3 ms. attached to it =



<http://www.anatomyqa.com/anatomy/important-question-and-answers-on-head-and-neck-anatomy/parotid-gland-anatomy/>



Lecture Quiz

- Which of the following structures emerge from base of parotid gland?
 - a) Parotid duct
 - b) Auriculotemporal nerve
 - c) Zygomatic branch of facial nerve
 - d) Ant div of retromandibular vein



Structures inside the gland

1) **ECA (most deep)** enters via posteromed surface & divides at level of neck of mandible into maxillary & superficial temporal art.

2) **Retromandibular Vein:** formed inside the gland by union of maxillary and superficial temporal veins. It divides into ant. and post. div. that leave the gland through its apex.

3) **Facial Nerve: (most superficial)** enters via posteromed. surface, divides gland into superficial and deep parts. Then forms a plexus called **Pes Anserinus** & divides into its 5 terminal branches

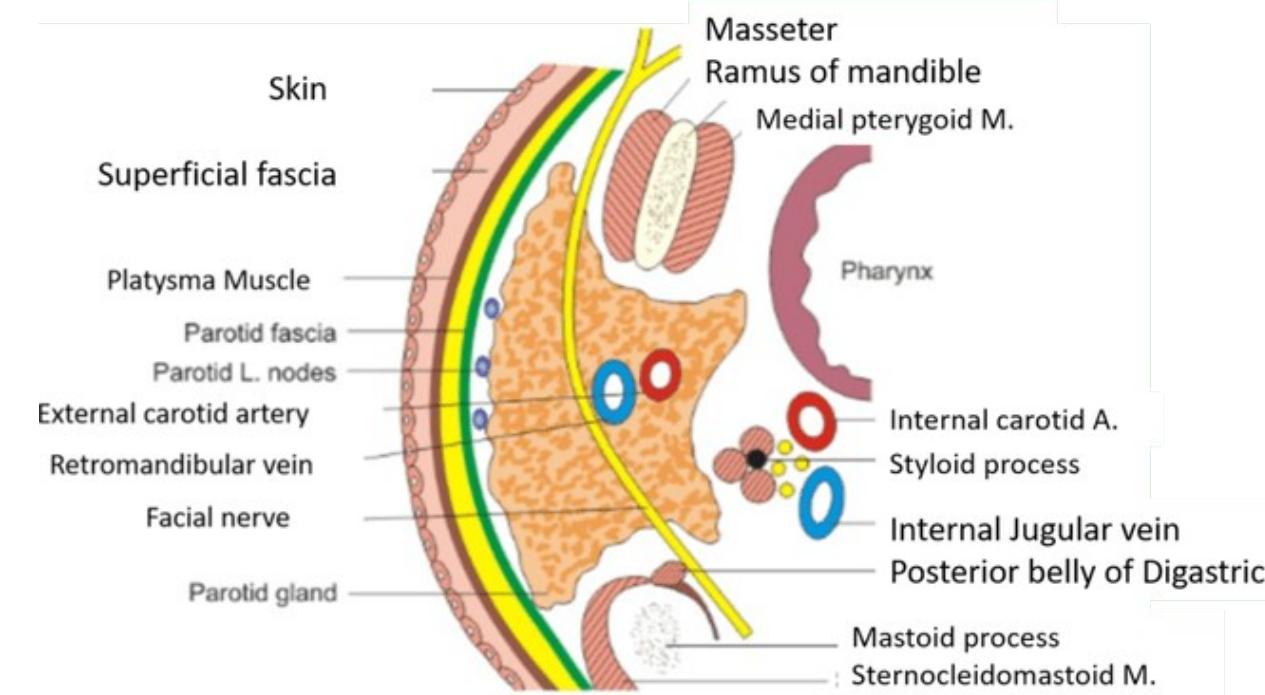
New Five Year Program

GIT Module

<http://www.anatomyqa.com/anatomy/important-question-and-answers-on-head-and-neck-anatomy/parotid-gland-anatomy/>

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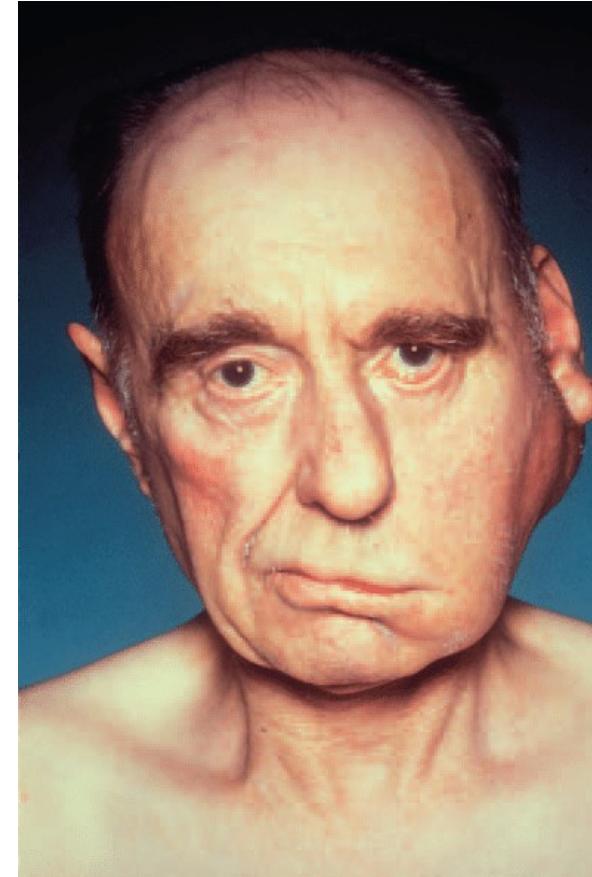
4) **Deep parotid L.N.:** embedded within





Facial nerve lesion

A malignant tumour of the parotid is usually highly invasive and involves the facial nerve, causing unilateral facial paralysis.

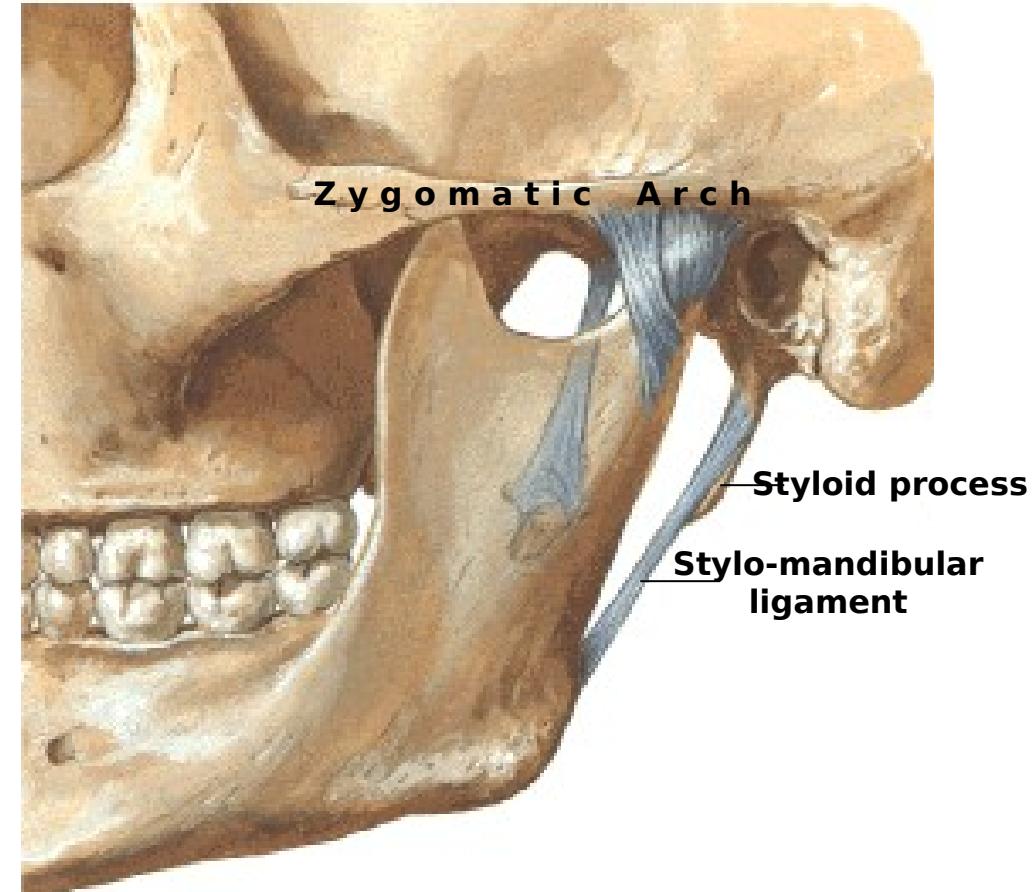


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Capsule

- The gland is ensheathed by a capsule derived from the **deep cervical fascia**
- The **stylomandibular ligament** separates **parotid gland** from **submandibular gland**



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Parotid Inflammation

The parotid gland may become acutely inflamed as a result of bacterial infection from the mouth via the parotid duct or as in mumps.

The gland becomes swollen and painful because the fascial capsule is strong and limits the swelling of the gland.



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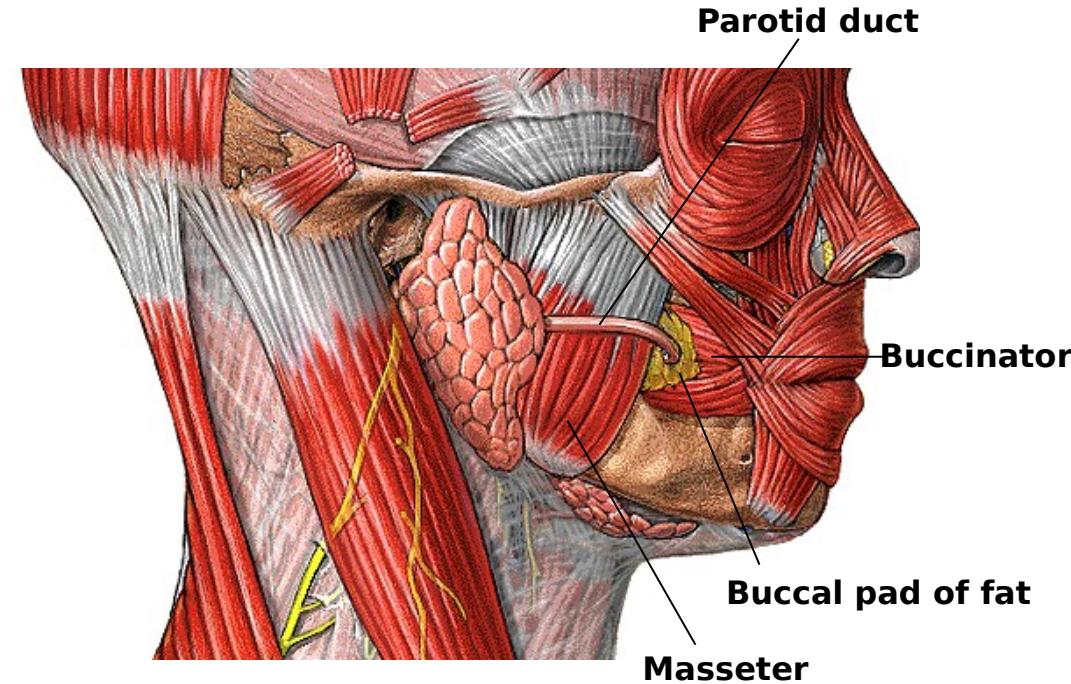
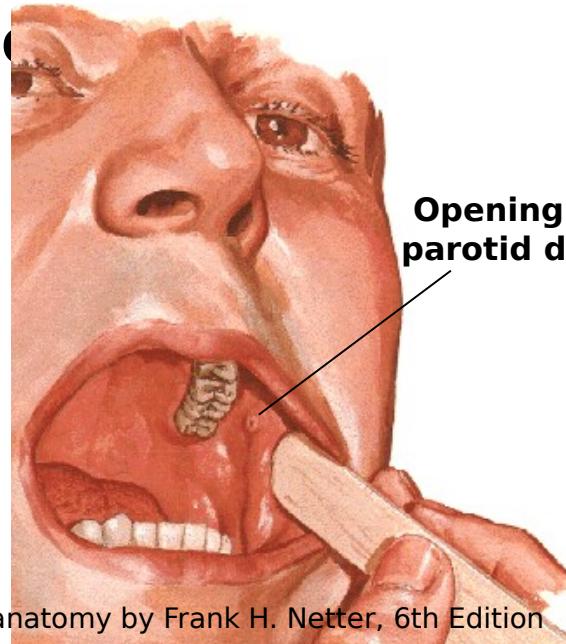
Lecture Quiz

- Which of the following structures is the most superficial structure present inside parotid gland?
 - a) Retromandibular vein
 - b) Facial nerve
 - c) External carotid artery
 - d) Maxillary artery



Parotid duct

- 3 cm long
- Arises from **anterior border** of the gland
- Runs on **masseter** below zygomatic arch, then **pierce (4B)** **buccal pad of fat**, **buccopharyngeal fascia**, **buccinator** & **buccal mucosa**
- **Opens** into **vestibule of mouth** opposite the **upper 2nd molar** in **oblique** course



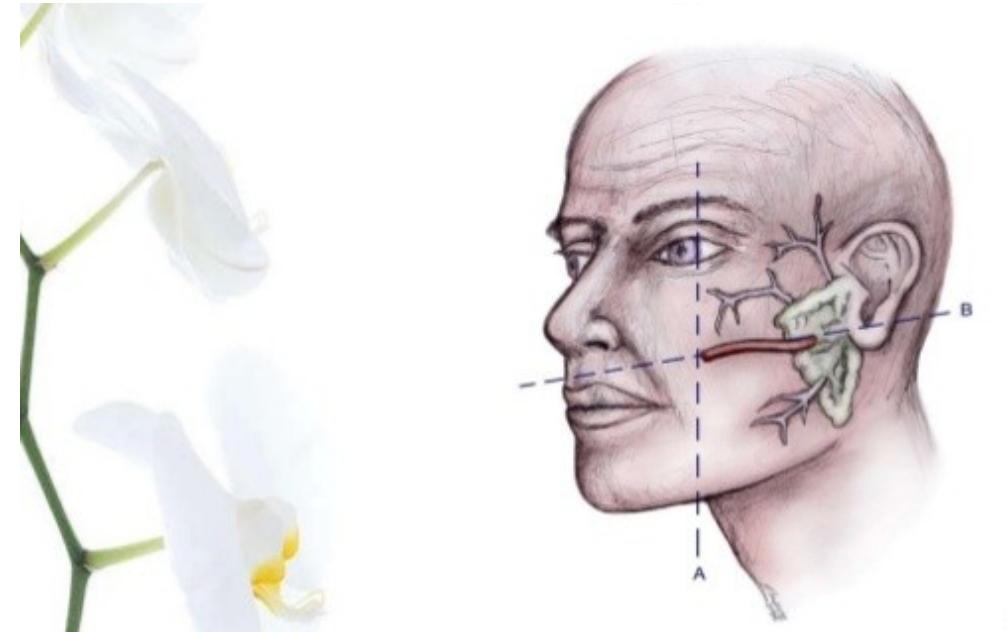
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Parotid duct

Surface anatomy of the parotid duct

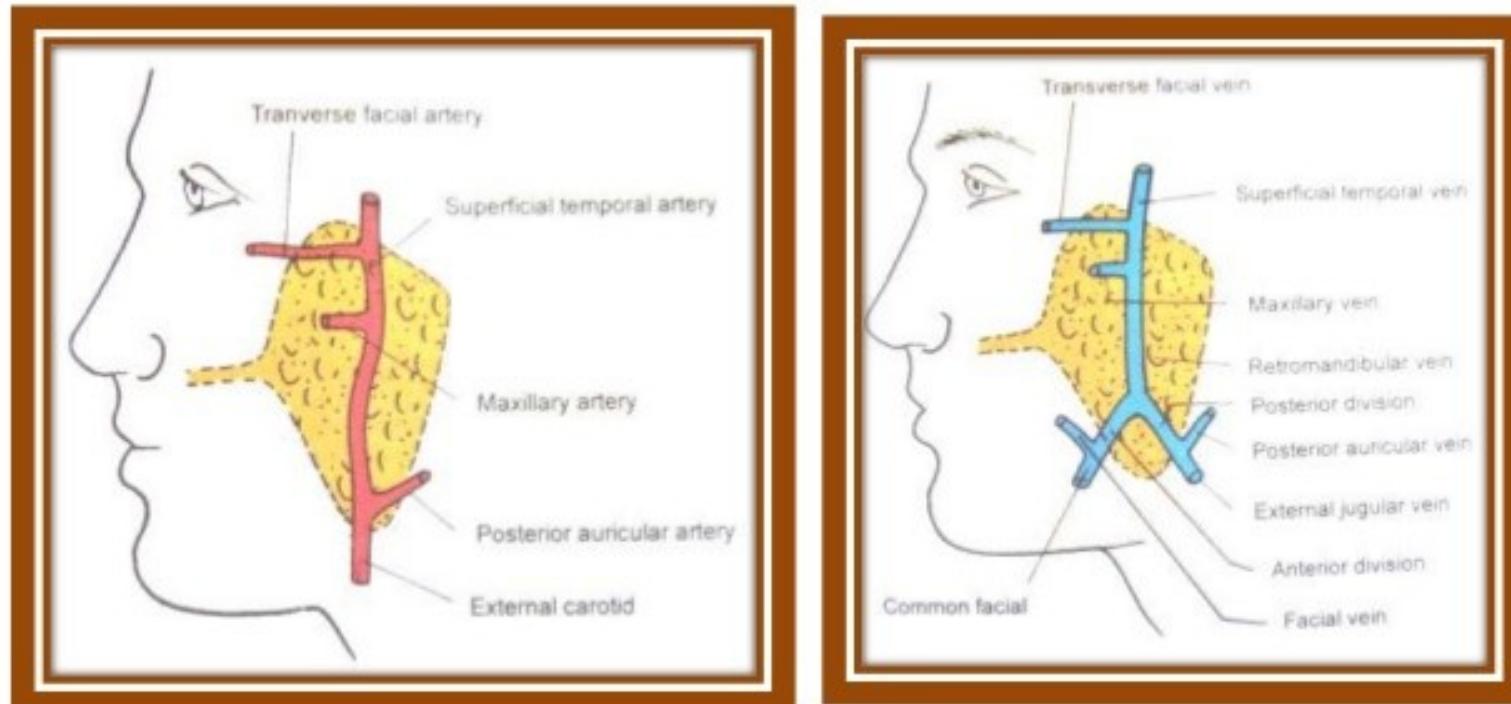
- Represented by **middle $\frac{1}{3}$** of a line between **tragus** and a point midway **bet. ala of nose & upper lip**



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Supply of the gland

- **Arterial supply:** ECA
- **Venous drainage:**
Retromandibular V
- **Lymph drainage:**
Parotid then cervical LN

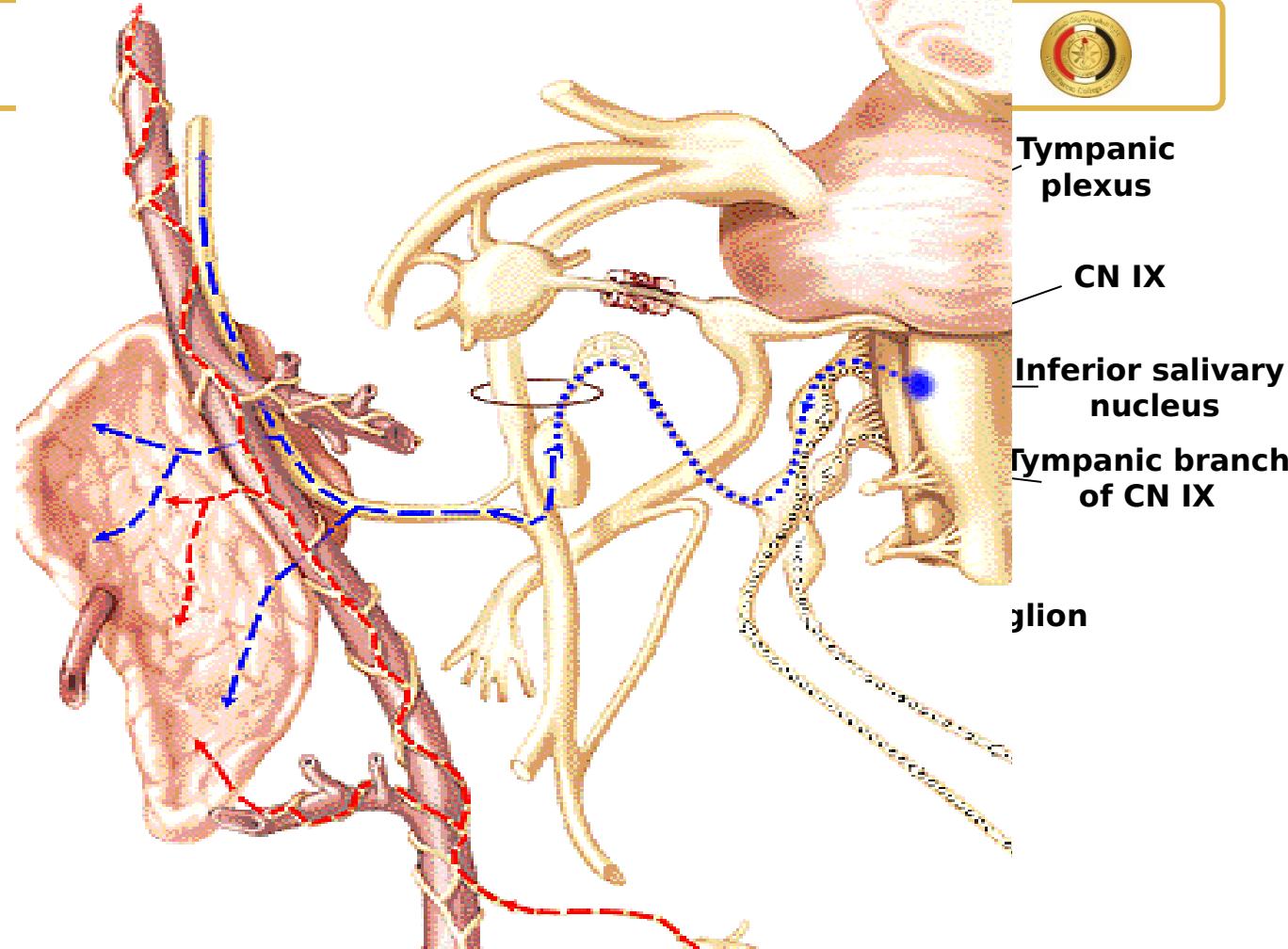


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Supply of the gland

Nerve supply:

- **Sensory:** auriculotemporal nerve
- **Sympathetic:** plexus around **ECA**
- **Parasympathetic:** postganglionic fibres from the **otic ganglion** carried by the **auriculotemporal nerve**



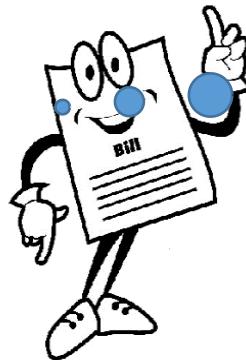
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Preganglionic fibres arise from the **inferior salivary nucleus** in the brain stem, run with **glossopharyngeal nerve**, then through its **tympanic branch** to join the **tympanic plexus**, fibres are then carried by the **lesser petrosal nerve** which leaves through the **foramen ovale** and terminates in the **otic ganglion**

Lecture Quiz



- Parotid duct opens in vestibule of mouth opposite
 - a) Upper 3rd molar
 - b) Upper 2nd molar
 - c) Upper premolar
 - d) Upper 1st molar



Parotid Gland

1. Describe position, shape, surfaces, borders and relations of parotid
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4. Discuss the nerve supply , blood supply and lymphatic drainage of parotid gland

SUGGESTED TEXTBOOKS



1. Gray's Anatomy for Students-4th Edition

Atlas of human anatomy by Frank H. Netter, 6th Edition



A blue pen is shown from a top-down perspective, its tip pointing towards the bottom right. It is writing the words "Thank you!" in a black, flowing cursive script. The pen has a blue barrel and a silver clip. The background is a plain, light color.